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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,284	12/15/2003	Steven L. Albrigo	03815.1620	1765

7590 11/21/2006

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EXAMINER
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RIVELL, JOHN A

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/734,284	ALBRIGO, STEVEN L.	
	Examiner	Art Unit	
	John Rivell	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 9/12/06 (amendment).
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Applicant's arguments filed September 16, 2006 have been fully considered but they are not persuasive.

Claims 1-20 remain pending.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 and 15-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Specifically, as now set forth in these claims and in view of the comments concerning such filed September 16, 2006, page 9 of the response, second full paragraph, the now claimed feature that requires the "upper supply elbow mounted on a rotatable plate (to be) mechanically connected to (the) bottom cap" such that the "rotatable plate is attached to another end of the body", the "body" being also attached to the "bottom cap" is not enabled by the specification as originally filed.

For example, as set forth in para [0028] of the specification, the "bottom cap" 18 is attached to a "body" 20 and the inlet conduit 16 thus making both cap 18 and body 20 essentially fixed in position. The upper supply elbow 22 is mounted upon a rotatable plate 24. As is apparent from figure 3, the rotatable plate is attached to an inner ring 36 forming with outer ring 38 the "slip ring assembly". Thus the rotatable plate 24 is not

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"mechanically connected" to the "bottom cap" as is now claimed and argued. The only potential mechanical connection comes from the slip ring assembly which forms a fluid connection of these elements. As disclosed, these elements are not mechanically connected as argued and in the rejections below, the phrase "mechanically connected" is interpreted, as disclosed in the application, to encompass a slip ring assembly forming a fluid connection between these elements while at the same time allowing relative rotation between the same elements.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8-11 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krijger.

The patent to Krijger discloses an "air exchange assembly (merely a name given the claimed device. Further, the device of Krijger is clearly capable of performing with "air" as the fluid) comprising: a (inherent) lower supply duct having a first lower supply duct end and a second lower supply duct end (connected to the inlet of supply tube 9), said first lower supply duct end connected to an (inherent) external cooling unit (supplying the cooling fluid); a bottom cap (in outline in figure 1 identical to the upper cap 8 but at the bottom) attached to said second lower supply duct end (at the inlet to tube 9) at a first end and attached to one end of a body (outer connector body 1) at a second (opposite) end; an upper supply elbow (fig. 2, defining and containing chamber 13) mounted on a rotatable plate (8) and mechanically (fluidly; see above) connected to said bottom cap creating a first passage (within tube 9) from said second lower supply

duct end to said upper supply elbow (13) through said bottom cap, wherein said rotatable plate (8) is attached to another end of the body (outer connector body 1); an (inherent) upper supply duct having a first upper supply duct end and a second upper supply duct end, said first upper supply duct end connected to and extending in a first direction from said upper supply elbow (13) and said second upper supply duct end connected to a device (rotating heat exchanger 11, fig. 1) to be cooled; an (inherent) upper return duct (partially shown at 15) having a first upper return duct end and a second upper return duct end, said first upper return duct end connected to the device (11) and said second upper return duct end connected to said upper plenum and extending in a second direction...; an upper return plenum (chamber 14) connected to said rotatable plate (8) and connected to said second upper return duct end (at 16); a second passage (within inner conductor 2 but outside of tube 9) connected to said upper return plenum (14); a (inherent) lower return plenum connected to said second (annular) passage creating a passage from said upper return plenum (14) to said lower return plenum; and a (inherent) lower return duct having a first lower return duct end and a second lower return duct end, said first lower return duct end connected to said lower return plenum and said second lower return duct end connected to the (inherent) external cooling unit" to receive the returned cooling fluid, as recited in claim 1.

Thus the patent to Krijger discloses all the claimed features with the exception of having the "second direction (of the second return duct) substantially opposite to said first direction". That is, comparing to Krijger, the coolant outlet 15 is not 180 degrees opposite to the coolant inlet 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to physically relocate the coolant inlet 16 so as to be 180 degrees from and thus "substantially opposite to" the direction of the coolant outlet 15 (or vice

versa) for the purpose of accommodation peculiar plumbing arrangements that required such opposite connections, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70. Thus to merely relocate one necessary part relative to those other necessary parts, even if for a particular purpose such as accommodating peculiar plumbing arrangements, as been determined by the courts to have been an obvious thing to do.

Regarding claim 2, in Krijger, "a slip ring assembly (as defined on page of the instant specification as an inner 36 and outer 38 bodies; in Krijger inner tube 9 and outer tube 2) forming part of said first passage" as recited.

Regarding claim 3, in Krijger, said slip ring assembly is rotatable" as recited.

Regarding claim 4, in Krijger, "said second passage (inside of tube 9 and inside of tube 2) is an annular passage" as recited.

Regarding claims 8-11 and 15-18, the patent to Krijger discloses all the claimed features with the exception of having "air" as the heat exchange fluid.

However, Official Notice is hereby taken that it is widely known and notoriously old in the art to employ forced air heating and/or cooling systems. Utility in buildings, such as personal and public, to disseminate heated and/or cooled air for the purpose of occupants comfort are but one example of the widely known utility of such systems.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Krijger air as the heat exchange fluid for the purpose of heating and/or cooling the radar heat exchanger 11 as is widely known and notoriously old as exemplified by known forced air heat and cooling systems. Additionally, while the advantage of increased heat exchange capability may be diminished by the use of air as opposed to liquid, the tradeoff comes as structural in that

minimal air leakage, as opposed to minimal liquid leakage, is negligent. The remaining limitation follow the analysis set forth above concerning claims 2-4.

Claims 5-7, 12-14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krijger, as applied above, further in view of Ringell.

The patent to Krijger, as modified above, discloses all the claimed features with the exception of having an "additional upper return duct and... plenum (and) a third passage" conducting fluid to and from the rotating "device to be cooled".

The patent to Ringell discloses that it is known in the art to employ plural supply passages, such as at 4 and 5 to supply and 17 and 19 to return fluid from a rotating object to a stationary source for the purpose of supplying and returning fluid from a stationary source to a rotating object through plural paths.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Krijger plural upper ducts and chambers for the purpose of supplying fluid to the heat exchanger 11 through plural paths as recognized by Ringell.

Regarding applicants remarks concerning the above, the now amended claim and argument regarding the "mechanical" attachment of the rotatable plate to the bottom cap is not enabled by the specification as is required by 35 USC 112. As for the opposing directions of the upper supply and return conduits, to merely relocate the direction of either the outlet 15 or inlet 16 conduit such that either is "substantially opposite" the other has been determined by the courts to be an obvious thing to do. Additionally, to do so for the purpose of accommodating peculiar plumbing arrangements would have been obvious to one of ordinary skill in the art.

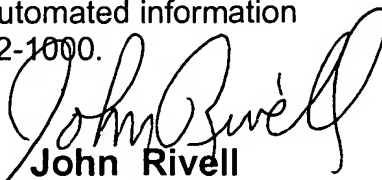
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**John Rivell**  
**Primary Examiner**  
**Art Unit 3753**

j.r.